

U.S.S.N. 10/796,398

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Preliminary Amendment and Request for Reconsideration

LISTING OF THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in this application. Added text is indicated by underlining, and deleted text is indicated by ~~strikethrough~~. Changes are identified by a vertical bar in the margin.

1. (Currently amended) A resonant element, comprising:

a first conducting plane disposed in a first plane of symmetry;

a second conducting plane disposed in a second plane of symmetry;

a resonant via further comprising:

a first conducting pad ~~coupled-connected~~ proximate to one end of the resonant via and disposed in a third plane substantially parallel to the first plane of symmetry; and

a second conducting pad ~~coupled-connected~~ proximate to the other end of the resonant via and disposed in a fourth plane substantially parallel to the second plane of symmetry, wherein the resonant via is physically connected to only the first and second conducting pads the resonant via thereby forming a physically isolated electrically conductive structure having a preselected reactance that provides a resonant shunt circuit between the conducting planes over a desired frequency band.

2. (Previously presented) The resonant element of claim 1, wherein the first conducting pad is external relative to the first and second conducting planes.

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forms an electromagnetically resonant shunt circuit between the first and second conducting planes for a certain frequency range.

10. (Currently amended) An electromagnetically reactive structure for attenuating the propagation of electromagnetic radiation, comprising:

a first conducting plane disposed in a first plane of symmetry;

a second conducting plane disposed in a second plane of symmetry;

a plurality of resonators, each of the plurality of resonators comprising:

a resonant via further comprising:

a first conducting pad coupled-connected proximate to one end of the resonant via and disposed in a third plane substantially parallel to the first plane of symmetry, and

a second conducting pad coupled-connected proximate to the other end of the resonant via and disposed in a fourth plane substantially parallel to the second plane of symmetry, ~~wherein the resonant via is physically connected to only the first and second conducting pads the resonant via thereby forming a physically isolated electrically conductive structure having a preselected reactance that provides a resonant shunt circuit between the conducting planes over a desired frequency band.~~

11. (Original) The electromagnetically reactive structure of claim 10, wherein the plurality of resonators are disposed in a two-dimensional periodic array lying between the first and second conducting planes.

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23. (Currently amended) A layered assembly, comprising:

a first conducting plane disposed in a first plane of symmetry;

a second conducting plane disposed in a second plane of symmetry;

and

an electromagnetically reactive structure for attenuating the propagation of electromagnetic radiation, including a plurality of resonators, each of the plurality of resonators comprising:

a resonant via further comprising:

a first conducting pad coupled connected proximate to one end of the resonant via and disposed in a third plane substantially parallel to the first plane of symmetry, and

a second conducting pad coupled connected proximate to the other end of the resonant via and disposed in a fourth plane substantially parallel to the second plane of symmetry, wherein the resonant via is physically connected to only the first and second conducting pads the resonant via thereby forming a physically isolated electrically conductive structure having a preselected reactance that provides a resonant shunt circuit between the conducting planes over a desired frequency band.

24. (Original) The layered assembly of claim 23, wherein the plurality of resonators are disposed in a two-dimensional periodic array lying between the first and second conducting planes.